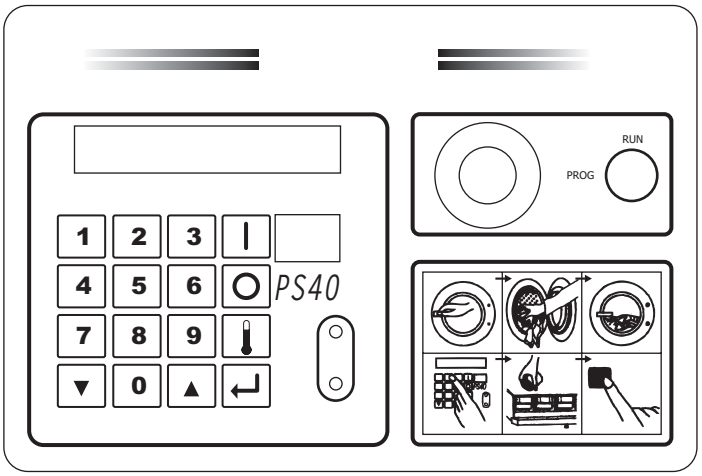
Washer-Extractors

Pocket Hardmount Variable-Speed

PS40 Control

Refer to Page 9 for Model Identification

Programming



PHM1398C

Keep These Instructions for Future Reference.
(If this machine changes ownership, this manual must accompany machine.)

Alliance Laundry Systems

www.comlaundry.com

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Safety Information

Explanation of Safety Messages

Precautionary statements ("DANGER," "WARNING," and "CAUTION"), followed by specific instructions, are found in this manual and on machine decals. These precautions are intended for the personal safety of the operator, user, servicer, and those maintaining the machine.

DANGER

DANGER indicates the presence of a hazard that will cause severe personal injury, death, or substantial property damage if the danger is ignored.

WARNING

WARNING indicates the presence of a hazard that can cause severe personal injury, death, or substantial property damage if the warning is ignored.

CAUTION

CAUTION indicates the presence of a hazard that will or can cause minor personal injury or property damage if the caution is ignored.

Additional precautionary statements ("IMPORTANT" and "NOTE") are followed by specific instructions.

IMPORTANT: The word "IMPORTANT" is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE: The word "NOTE" is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

Important Safety Instructions

WARNING

To reduce the risk of fire, electric shock, serious injury or death to persons when using your washer, follow these basic precautions:

W023

1. Read all instructions before using the washer.
2. Refer to the GROUNDING INSTRUCTIONS in the INSTALLATION manual for the proper grounding of the washer.
3. Do not wash textiles that have been previously cleaned in, washed in, soaked in, or spotted with gasoline, kerosene, waxes, cooking oils, dry-cleaning solvents, or other flammable or explosive substances as they give off vapors that could ignite or explode.
4. Do not add gasoline, dry-cleaning solvents, or other flammable or explosive substances to the wash water. These substances give off vapors that could ignite or explode.
5. Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. HYDROGEN GAS IS EXPLOSIVE. If the hot water system has not been used for such a period, before using a washing machine or combination washer-dryer, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. The gas is flammable, do not smoke or use an open flame during this time.
6. Do not allow children to play on or in the washer. Close supervision of children is necessary when the washer is used near children. This is a safety rule for all appliances.
7. Before the washer is removed from service or discarded, remove the door to the washing compartment.
8. Do not reach into the washer if the wash drum is moving.

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9. Do not install or store the washer where it will be exposed to water and/or weather.
10. Do not tamper with the controls.
11. Do not repair or replace any part of the washer, or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that the user understands and has the skills to carry out.
12. To reduce the risk of an electric shock or fire, DO NOT use an extension cord or an adapter to connect the washer to the electrical power source.
13. Use washer only for its intended purpose, washing textiles.
14. Never wash machine parts or automotive parts in the machine. This could result in serious damage to the basket.
15. ALWAYS disconnect the washer from electrical supply before attempting any service. Disconnect the power cord by grasping the plug, not the cord.
16. Install the washer according to the INSTALLATION INSTRUCTIONS. All connections for water, drain, electrical power and grounding must comply with local codes and be made by licensed personnel when required.
17. To reduce the risk of fire, textiles which have traces of any flammable substances such as vegetable oil, cooking oil, machine oil, flammable chemicals, thinner, etc., or anything containing wax or chemicals such as in mops and cleaning cloths, must not be put into the washer. These flammable substances may cause the fabric to catch on fire by itself.
18. Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
19. Keep washer in good condition. Bumping or dropping the washer can damage safety features. If this occurs, have washer checked by a qualified service person.
20. Be sure water connections have a shut-off valve and that fill hose connections are tight. CLOSE the shut-off valves at the end of each wash day.
21. Loading door MUST BE CLOSED any time the washer is to fill, tumble or spin. DO NOT bypass the loading door switch by permitting the washer to operate with the loading door open.
22. Always read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed all warnings or precautions. To reduce the risk of poisoning or chemical burns, keep them out of the reach of children at all times (preferably in a locked cabinet).
23. Always follow the fabric care instructions supplied by the textile manufacturer.
24. Never operate the washer with any guards and/or panels removed.
25. DO NOT operate the washer with missing or broken parts.
26. DO NOT bypass any safety devices.
27. Failure to install, maintain, and/or operate this washer according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

NOTE: The WARNINGS and IMPORTANT SAFETY INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining, or operating the washer.

Any problems or conditions not understood should be reported to the dealer, distributor, service agent or the manufacturer.

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WARNING

This machine must be installed, adjusted, and serviced by qualified electrical maintenance personnel familiar with the construction and operation of this type of machinery. They must also be familiar with the potential hazards involved. Failure to observe this warning may result in personal injury and/or equipment damage, and may void the warranty.

SW004

IMPORTANT: Ensure that the recommended clearances for inspection and maintenance are provided. Never allow the inspection and maintenance space to be blocked.

CAUTION

Install the machine on a level floor of sufficient strength. Failure to do so may result in conditions which can produce serious injury, death and/or property damage.

W703

CAUTION

Be careful around the open door, particularly when loading from a level below the door. Impact with door edges can cause personal injury.

SW025

WARNING

Never touch internal or external steam pipes, connections, or components. These surfaces can be extremely hot and will cause severe burns. The steam must be turned off and the pipe, connections, and components allowed to cool before the pipe can be touched.

SW014

Safety Decals

Safety decals appear at crucial locations on the machine. Failure to maintain legible safety decals could result in injury to the operator or service technician.

To provide personal safety and keep the machine in proper working order, follow all maintenance and safety procedures presented in this manual. If questions regarding safety arise, contact the manufacturer immediately.

Use manufacturer authorized spare parts to avoid safety hazards.

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Operator Safety

WARNING

NEVER insert hands or objects into basket until it has completely stopped. Doing so could result in serious injury.

SW012

To ensure the safety of machine operators, the following maintenance checks must be performed daily:

1. Prior to operating machine, verify that all warning signs are present and legible. Missing or illegible signs must be replaced immediately. Make certain that spares are available.
2. Check door interlock before starting operation of machine:
   a. Attempt to start machine with door open. Machine should not start with door open.
   b. Close door without locking it and attempt to start machine. Machine should not start with door unlocked.
   c. Close and lock door and start a cycle. Attempt to open door while cycle is in progress. Door should not open.

   If door lock and interlock are not functioning properly, call a service technician.
3. Do not attempt to operate machine if any of the following conditions are present:
   a. Door does not remain securely locked during entire cycle.
   b. Excessively high water level is evident.
   c. Machine is not connected to a properly grounded circuit.

Do not bypass any safety devices in machine.

WARNING

Never operate the machine with a bypassed or disconnected balance system. Operating the machine with severe out-of-balance loads could result in personal injury and serious equipment damage.

SW039

Safe Operating Environment

Safe operation requires an appropriate operating environment for both the operator and the machine. If questions regarding safety arise, contact the manufacturer immediately.

Environmental Conditions

- *Ambient Temperature*. Water in machine will freeze at temperatures of 32°F (0°C) or below.

  Temperatures above 120°F (50°C) will result in more frequent motor overheating and, in some cases, malfunction or premature damage to solid state devices that are used in some models. Special cooling devices may be necessary.

  Water pressure switches are affected by increases and decreases in temperature. Every 25°F (10°C) change in temperature will have a 1% effect on the water level.
- *Humidity*. Relative humidity above 90% may cause machine's electronics or motors to malfunction or may trip ground fault interrupter. Corrosion problems may occur on some metal components in machine.

  If relative humidity is below 30%, belts and rubber hoses may eventually develop dry rot. This condition can result in hose leaks, which may cause safety hazards external to machine in conjunction with adjacent electrical equipment.
- *Ventilation*. The need for make-up air openings for such laundry room accessories as dryers, ironers, water heaters, etc., must be evaluated periodically. Louvers, screens or other separating devices may reduce available air opening significantly.
- *Radio Frequency Emissions*. A filter is available for machines in installations where floor space is shared with equipment sensitive to radio frequency emissions.
- *Elevation*. If machine is to be operated at elevations of over 3280 feet (1000 m) above sea level, pay special attention to water levels and electronic settings (particularly temperature) or desired results may not be achieved.
- *Chemicals*. Keep stainless steel surfaces free of chemical residues.

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DANGER

Do not place volatile or flammable fluids in any machine. Do not clean the machine with volatile or flammable fluids such as acetone, lacquer thinners, enamel reducers, carbon tetrachloride, gasoline, benzene, naptha, etc. Doing so could result in serious personal injury and/or damage to the machine.

SW002

- *Water Damage*. Do not spray machine with water. Short circuiting and serious damage may result. Repair immediately all seepage due to worn or damaged gaskets, etc.

Machine Location

- *Foundation*. The concrete floor must be of sufficient strength and thickness to handle floor loads generated by high extract speeds of machine.
- *Service/Maintenance Space*. Provide sufficient space to allow comfortable performance of service procedures and routine preventive maintenance.

Consult installation instructions for specific details.

CAUTION

Replace all panels that are removed to perform service and maintenance procedures. Do not operate the machine with missing guards or with broken or missing parts. Do not bypass any safety devices.

SW019

Input and Output Services

- *Water Pressure*. Best performance will be realized if water is provided at a pressure of 30 – 85 psi (2 – 5.7 bar). Although machine will function properly at lower pressure, increased fill times will occur. Water pressure higher than 100 psi (6.7 bar) may result in damage to machine plumbing. Component failure(s) and personal injury could result.
- *Steam Heat (Optional) Pressure*. Best performance will be realized if steam is provided at a pressure of 30 – 80 psi (2 – 5.4 bar). Steam pressure higher than 125 psi (8.5 bar) may result in damage to steam components and may cause personal injury.

  For machines equipped with optional steam heat, install piping in accordance with approved commercial steam practices. Failure to install supplied steam filter may void warranty.
- *Drainage System*. Provide drain lines or troughs large enough to accommodate total number of gallons that could be released if all machines on site drained at same time from highest attainable level. If troughs are used, they should be covered to support light foot traffic.
- *Power*. For personal safety and for proper operation, machine must be grounded in accordance with state and local codes. Ground connection must be to a proven earth ground, not to conduit or water pipes. Do not use fuses in place of circuit breaker. An easy-access cutoff switch should also be provided.

WARNING

Ensure that a ground wire from a proven earth ground is connected to the ground lug near the input power block on this machine. Without proper grounding, personal injury from electric shock could occur and machine malfunctions may be evident.

SW008

Always disconnect power and water supplies before a service technician performs any service procedure. Where applicable, steam and/or compressed air supplies should also be disconnected before service is performed.

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DirectDrive

Machines equipped with DirectDrive require special attention with regard to operating environment.

- An especially dusty or linty environment will require more frequent cleaning of AC inverter drive cooling fan filter and of AC inverter drive itself.
- Power line fluctuations from sources such as uninterruptible power supplies (UPS) can adversely affect machines equipped with AC inverter drive. Proper suppression devices should be utilized on incoming power to machine to avoid problems.
- A clean power supply free from voltage spikes and surges is absolutely essential for machines equipped with AC inverter drive. Inconsistencies (peaks and valleys) in power supply can cause AC inverter drive to generate nuisance errors.

  If voltage is above 230 Volt for 200 Volt installation or 460 Volt for 400 Volt installation, ask power company to correct. As an alternative, a step-down transformer kit is available from distributor. If voltage is above 240 Volt for 200 Volt installation or 480 Volt for 400 Volt installations, a buckboost transformer is required.
- Sufficient space to perform service procedures and routine preventive maintenance is especially important for machines equipped with AC inverter drive.

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Model Identification

Information in this manual is applicable to these models:

	Medium Speed		High Speed	
40 Pound	CP040PMN CP040PMQ CP040PMX CPC40M IP040PMN	IP040PMQ IP040PMX IPH40M IPH180	CP040PHN CP040PHQ CP040PHX CPC40H IP040PHN	IP040PHQ IP040PHX IPH40H JP040PHN JP040PHQ
60 Pound	CP060PMN CP060PMQ CP060PMX CPC60M IP060PMN	IP060PMQ IP060PMX IPH60M IPH270 JP060PMQ	CP060PHN CP060PHN CP060PHQ CP060PHX CPC60H IP060PHN IP060PHN	IP060PHQ IP060PHX IPH60H JP060PHN JP060PHN JP060PHQ
80 Pound	CP080PMN CP080PMN CP080PMQ CPC80M IP080PMN	IP080PMN IP080PMQ IPH80M IPH370	CP080PHN CP080PHQ CPC80H IP080PHN	IP080PHQ IPH80H JP080PHN JP080PHQ
100 Pound	CP100PMN CP100PMN CP100PMQ CPC100M IP100PMN	IP100PMN IP100PMQ IPH100M IPH460 JP100PMQ	CP100PHN CP100PHQ CPC100H IP100PHN	IP100PHQ IPH100H JP100PHN JP100PHQ
125 Pound	Not Applicable		CP125PHN CP125PHQ CPC125H IP125PHN	IP125PHQ IPH125H IPH570 JP125PHN
140 Pound	CP140PMN CP140PMQ CPC140M IP140PMN	IP140PMQ IPH140M IPH640 JP140PMQ	CP140PHN CP140PHQ CPC140H IP140PHN	IP140PHQ IPH140H JP140PHN JP140PHQ
175 Pound	Not Applicable		CP175PHN CPC175H JP175PHN	IP175PHN IPH175H IPH790

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Model Number Familiarization Guide	
Sample Model Number: **IP060PMQ1001U01**	
I	Model Number Prefix Brand
P	Product Family; P=IPH
060	Washer-Extractor Capacity (pounds dry weight of laundry)
P	Type of Control; P=PS40
M	Spin Speed; M=Medium
Q	Electrical Voltage; Q=200-208/220-240 Volt/50 or 60 Hertz/3 Phase
1	Design Series
0	Auxiliary Heating; 0=Prep for Steam
0	Plumbing; 0=2-Valve Standard Thread
1	Chemical Supply; 1=Single Dry Chemical Compartment with 6 Liquid Chemical Supply Connections
U	Agency Approval; U=ETL/ETLC
01	Options Identification

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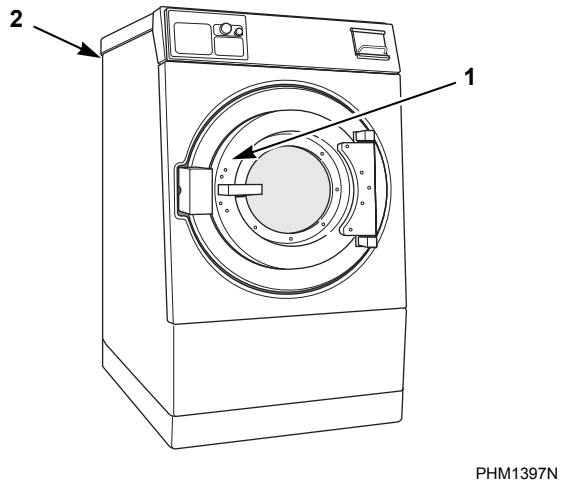
Introduction

This manual is designed as a guide for the installation of a washer-extractor equipped with DirectDrive.

NOTE: All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.

Nameplate Location

The nameplate is located inside the door and on the upper rear panel. Always provide the machine's serial number and model number when ordering parts or when seeking technical assistance. Refer to *Figure 1*.



1 Inside Door
2 On Upper Rear Panel

Figure 1

Replacement Parts

If literature or replacement parts are required, contact the source from which the washer-extractor was purchased or contact Alliance Laundry Systems LLC at (920) 748-3950 for the name of the nearest authorized parts distributor. A parts manual may be ordered by returning the reply card provided with each washer-extractor.

Customer Service

For technical assistance, contact your local distributor or call:

(920) 748-3121
Ripon, Wisconsin

+32 56 41 20 54
Wevelgem, Belgium

A record of each washer-extractor is on file with the manufacturer. Always provide the machine's serial number and model number when ordering parts or when seeking technical assistance. Refer to *Figure 1*.

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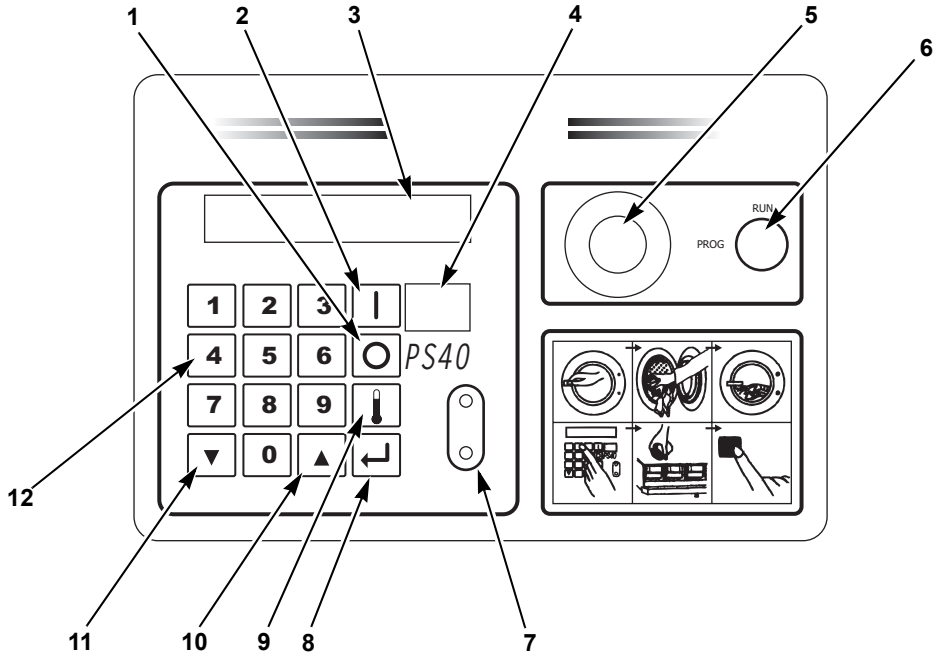
Control Identification



PHM1398C

1	Stop Button	**7**	Infra-Red Programming Port
2	Start Button	**8**	Enter Button
3	Main Display	**9**	Temperature/Toggle Button
4	Program Number/Alarm Display	**10**	Up Button
5	Emergency Stop Button	**11**	Down Button
6	Run/Program Mode Key Switch	**12**	Number Buttons

Figure 2

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Start-up

No equipment installation is complete until guidelines for startup listed herein have been followed.

1. Check incoming AC voltage at circuit breaker for machine manufacturer's recommended voltage.
2. Activate auto grease cartridges. If they have previously been activated, replace them. Inspect all lubricating hoses for air bubbles (if applicable).
3. Turn on circuit breaker to machine.
4. Check AC voltage on washer-extractor incoming power terminal strip.
5. Turn on water supplies to washer-extractor.
6. Check water inlet fill hoses and water inlet valves for leaks.
7. Inspect drive belts and pulleys for adjustment and proper alignment.
8. Turn on electrical power at emergency stop button of washer-extractor.
9. Pre-program/configure/commission microprocessor following instructions in ***Setup (Pre-Program) Mode*** section.
10. After checking all outputs, perform tests listed in ***Test Mode*** section.
11. Run a factory program through to its completion with a load. Look, watch and listen. Investigate any leaks, noises or shaking of machine completely.

Model and Software Verification

NOTE: Ensure wash drum is empty, machine is powered up and loading door is closed and locked.

1. Access Programming Mode by inserting the Run/Prog key and turn to Prog.
2. Quickly press "Enter 938" on the keypad.
3. The display shows "Prog PC".

NOTE: If display does not show "Prog PC", keys were not pressed quickly enough. Press Stop button to abort and repeat process.

4. Press #2 keypad and the following will begin to scroll across the control display after 5 seconds.
   - **Machine Model** - such as "IPh60h" where "60" is the capacity and "h" is the model series. Compare to machine serial decal for accuracy.
   - **Software Version** - such as "02" or "03".
   - **Software ID Code** - such as "PS40 310".
5. Record the Machine Model, Software Version and Software ID Code.
6. Press Stop button twice or until "StArt" is displayed.

Overview Of Modes

Self Test Mode

When machine is powered up, the computer will proceed through a self-test and will show "Proո.3.10" and then "Good.3.10" temporarily on display. The last three digits of each indicate software ID code. Then "dAtA.XXXX" appears temporarily. This number will change each time a program is installed or modified. If all is good, display will then change to "StArt" indicating that machine is in Operating Mode and is ready to run.

Operating Mode

This is the mode in which the machine is normally operated. In order to access and run an existing program, enter program number on keypad, and then press Start. Refer to ***Operating Mode*** section.

NOTE: If this is the first time that the PS40 has been powered up and it has not been set up, "A3" will appear on display. Press Enter to clear it and proceed to Setup (Pre-Program) Mode section.

Cycle Programming Mode

This mode is used to install new programs or to alter previously installed programs. In order to access Programming Mode, ensure that "StArt" is on display, turn programming key to Prog and very quickly press "Enter 455" on keypad. If "Prog 05" appears, keys were not pressed quickly enough. Press stop to abort and start over. If "ProG" appears on display (flashing), you are in Program Mode. Refer to ***Programming Mode*** section.

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NOTE: If Programming key is not turned to Prog when this is attempted, "A0" will appear on display indicating that Program Mode has been locked out.

Copy Mode

This function is used in order to copy entire programs and assign them new program numbers. This feature saves a lot of time and effort when creating similar programs with few changes. In order to access Copy Mode, ensure that "StArt" is on display and turn programming key to Prog. Very quickly press "Enter 328" on keypad. If "Prog 08" appears, keys were not pressed quickly enough. Press Stop to abort and start over. If "CoPY PrG" appears on display, you are in Copy Mode. Refer to ***Copy Mode*** section.

NOTE: If Programming key is not turned to Prog when this is attempted, "A0" will appear on display indicating that Copy Mode has been locked out.

Setup (Pre-Program) Mode

NOTE: Do not modify any of PS40's setup items unless necessary – some settings can make machine appear to be malfunctioning. Although all machines are preconfigured at the factory, some special features, such as Chemical Timer Hold or Temperature units (°C or °F), may need to be enabled or changed for a particular installation.

Refer to ***Setup (Pre-Program) Mode*** section.

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Programming

Setup (Pre-Program) Mode

In order to access Setup (Pre-Program) Mode, ensure that "StArt" is on display.

1. Turn programming key to Prog and quickly press "Enter 619" on the keypad (all four buttons must be pressed quickly).

NOTE: If "Prog 19" appears, keys were not pressed quickly enough. Press Stop button to abort and repeat process.

2. When "ProGrAn" appears, you are in Setup (Pre-Program) Mode.
3. Press Enter button and "PrE" will appear on display.

NOTE: Use temperature key to alter/toggle selection. Use Stop button to back up one selection at a time.

4. Press Enter to begin machine setup.
5. "no HF" will appear on display. This option cannot be altered with keypad, press Enter to continue.
6. "FC" will appear on display. This option cannot be altered with keypad, press Enter to continue.
7. Display shows "no Coin" or "Coin". "Coin" means a vend price must be met before machine will run. This option does not apply.
8. Select "no Coin".
9. Press Enter to continue.
10. Display shows "no LECo" or "LECo". "LECo" requires a certain water level is met before program will continue to run.
11. Press Temperature button to alter selection.
12. Press Enter to continue.

NOTE: Level control will add time to the total program time.

13. Display shows "no LE.Pct" or "LE.Pct". "LE.Pct" selects water level in percentage of cylinder volume and "no LE.Pct" selects water level in centimeters.
14. Press Temperature button to alter your selection.
15. Press Enter to continue.
16. Display shows "SE.i". This selection cannot be altered. Proceed to water inlet valve selection.
17. Select all inlet valves that are equipped with machine, if desired.
18. Press Enter to continue.

NOTE: Not all machines have five soap components. Refer to the 12th digit in the model number (i.e. IP060PHN100<u>5</u>U01). If it is a 5 or 6, there are 5 soap compartments.

19. Display shows "no i.1" or "i.1". "i.1" enables powdered supply compartment number 1.
20. Press Temperature button to alter selection.
21. Press Enter to continue.
22. Display shows "no i.2" or "i.2". "i.2" enables powdered supply compartment 2.
23. Press Temperature button to alter selection.
24. Press Enter to continue.
25. Display shows "no i.3" or "i.3". "i.3" enables powdered supply compartment number 3.
26. Press Temperature button to alter selection.
27. Press Enter to continue.
28. Display shows "no i.4" or "i.4". "i.4" enables powdered supply compartment number 4.
29. Press Temperature button to alter selection.
30. Press Enter to continue.
31. Display shows "no i.5" or "i.5". "i.5" enables powdered supply compartment number 5.
32. Press Enter to continue.
33. Display shows "no i.6" or "i.6". "i.6" is not used on this model.
34. Press Enter to continue.
35. Display shows "no i.CoLd" or "i.CoLd". "i.CoLd" enables main cold water inlet fill valve.
36. Press Temperature button to alter selection.
37. Press Enter to continue.
38. Display shows "no i.Hot" or "i.Hot". "i.Hot" enables main hot water inlet fill valve.
39. Press Temperature button to alter selection.
40. Press Enter to continue.

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41. Display shows “no i.9” or “i.9”. “i.9” enables a liquid supply flush valve. If enabled, the valve activates for a predetermined time (refer to *Step 47*) after liquid supply injection signal. As an alternative, this selection can be used as an additional cold water inlet valve.
42. Press Temperature button to alter selection.
43. Press Enter to continue.
44. Display shows “i.9 FluSH” or “i.9 Hard”. “i.9 FluSH” selects a liquid supply flush valve and “i.9 Hard” selects an additional cold water inlet.
45. Press Temperature button to alter selection.
46. Press Enter to continue.

NOTE: If “i.9 HArd” was selected, “no i.r1” will display (proceed to Step 53), or if “i.9 FluSH” was selected, “FL t xx” (xx=number of seconds) will display.

47. Display shows “FL t xx”.
48. Using the keypad, input number of seconds the liquid supply flush valve should open after each chemical injection (15 seconds or “FL t 15” recommended).
49. Press Enter to continue.
50. Display shows “FL d xx” (xx=number of seconds).
51. Using the keypad, input the number of seconds delay before “i.9” opens (15 seconds or “FL d 15” recommended).
52. Press Enter to continue.

NOTE: During each chemical injection, the flush valve (“i.9”) will turn on to flush chemicals. Each time a chemical injection is called for, the PS40 will wait for the time programmed in “FL d” and then flush chemical drippage for time programmed in “FL t”.

53. Display shows “no i.r1” or “i.r1”. “i.r1” enables the optional water reuse valve 1.
54. Press Temperature button to alter selection.
55. Press Enter to continue.
56. Display shows “no i.r2” or “i.r2”. “i.r2” enables the optional water reuse valve 2.
57. Press Temperature button to alter selection.
58. Press Enter to continue.
59. Display shows “no i.r3” or “i.r3”. “i.r3” enables the optional water reuse valve 3.
60. Press Temperature button to alter selection.
61. Press Enter to continue.
62. Display shows “no rP” or “rP”. “rP” enables the water recirculating pump.
63. Press Temperature button to alter selection.
64. Press Enter to continue.
65. Display shows “no d1” or “d1”. “d1” enables the drain valve number 1 (standard equipment).
66. Press Temperature button to alter selection.
67. Press Enter to continue.
68. Display shows “no d2” or “d2”. “d2” enables the optional drain valve number 2.
69. Press Temperature button to alter selection.
70. Press Enter to continue.
71. Display shows “no rd1” or “rd1”. “rd1” enables the water reuse drain valve number 1.
72. Press Temperature button to alter selection.
73. Press Enter to continue.
74. Display shows “no rd2” or “rd2”. “rd2” enables the water reuse drain valve number 2.
75. Press Temperature button to alter selection.
76. Press Enter to continue.

NOTE: If no hot water inlet valves were selected earlier in preprogramming or configuration process, computer will default to “HEAt” setting and “HEAt SYS” will not be displayed.

77. Display shows “HEAt SYS”. This option cannot be altered.

NOTE: All machines are capable of taking advantage of the built-in “Temperature Controlled Water Fill” feature of the PS40. This mixes hot and cold water to best achieve programmed temperature. Machines with supplemental steam or electric heating can also utilize this feature.

78. Press Enter to continue.
79. Display shows “noHEAt” or “HEAt”. “HEAt” enables water inlet and supplemental heating without using “Temperature Controlled Water Fill” feature.
80. Press Temperature button to alter selection.
81. Press Enter to continue.

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82. Display shows "HEAt-nod". This option enables water inlet and supplemental heating using the"Temperature Controlled Water Fill" feature.
83. Press Temperature button to alter selection.
84. Press Enter to continue.
85. Display shows "nod". This enables the water inlet only using the "Temperature Controlled Water Fill" feature.
86. Press Temperature button to alter selection.
87. Press Enter to continue.

NOTE: If "nod" was selected in Step 85, "HECo" and "GEntlE" will not be displayed.

88. Display shows "noHECo" or "HECo". "HECo" pauses program time until programmed temperature is achieved.
89. Press Temperature button to alter selection.
90. Press Enter to continue.
91. Display shows "no.GEntLE" or "GEntLE". "GEntLE" enables the machine to run in "Gentle Action" (agitate 3 seconds, pause for 12 seconds) until programmed temperature is achieved. This will decrease the amount of time required to heat water to programmed temperature.
92. Press Temperature button to alter selection.
93. Press Enter to continue.
94. Display shows either "t ° C" or "t ° F". This option changes if the temperature will display in degrees Celsius or degrees Fahrenheit.
95. Press Temperature button to alter selection.
96. Press Enter to continue.
97. Display shows "SoAP" or "no SoAP". "SoAP" option enables liquid supply outputs.
98. Press Temperature button to alter selection.
99. Press Enter to continue.

NOTE: If "no SoAP" was selected, all soap options will be bypassed and "Add" option will be displayed. Skip to *Step 103*.

a. Display shows "no.SoAP. 1" or "SoAP. 1". "SoAP. 1" enables liquid supply output number 1.
   1. Press Temperature button to alter selection.
   2. Press Enter to continue.

b. Display shows "no.SoAP. 2" or "SoAP. 2". "SoAP. 2" enables liquid supply output number 2.
   1. Press Temperature button to alter selection.
   2. Press Enter to continue.

c. Display shows "no.SoAP. 3" or "SoAP. 3". "SoAP. 3" enables liquid supply output number 3.
   1. Press Temperature button to alter selection.
   2. Press Enter to continue.

d. Display shows "no.SoAP. 4" or "SoAP. 4". "SoAP. 4" enables liquid supply output number 4.
   1. Press Temperature button to alter selection.
   2. Press Enter to continue.

e. Display shows "no.SoAP. 5" or "SoAP. 5". "SoAP. 5" enables liquid supply output number 5.

f. Display shows "no.SoAP. 6" or "SoAP. 6". "SoAP. 6" enables liquid supply output number 6.
   1. Press Temperature button to alter selection.
   2. Press Enter to continue.

g. Display shows "no.SiGnAL" or "SiGnAL". "SiGnAL" enables liquid supply output number 6 to function as an external signaling device rather than a liquid supply output.
   1. Press Temperature button to alter selection.
   2. Press Enter to continue.

NOTE: Choosing this signal will put the signal at the end of the step it is programmed in.

NOTE: Soap 7-12 not available on all models. Refer to the 12th digit in the model number (i.e. IP060PHN100<u>2</u>U01). If it is a 2, 6 or 8, this indicates 12 signals.

h. Display shows "no.SoAP. 7" or "SoAP. 7". "SoAP. 7" enables liquid supply output number 7 (if machine is equipped).
   1. Press Temperature button to alter selection.
   2. Press Enter to continue.

i. Display shows "no.SoAP. 8" or "SoAP. 8". "SoAP. 8"enables liquid supply output number 8 (if machine is equipped).
   1. Press Temperature button to alter selection.

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2. Press Enter to continue.

j. Display shows "no.SoAP. 9" or "SoAP. 9". "SoAP. 9" enables liquid supply output number 9 (if machine is equipped).

1. Press Temperature button to alter selection.

2. Press Enter to continue.

k. Display shows "no.SoAP. 10" or "SoAP. 10". "SoAP. 10" enables liquid supply output number 10 (if machine is equipped).

1. Press Temperature button to alter selection.

2. Press Enter to continue.

l. Display shows "no.SoAP. 11" or"SoAP. 11". "SoAP. 11" enables liquid supply output number 11 (if machine is equipped).

1. Press Temperature button to alter selection.

2. Press Enter to continue.

m. Display shows "no.SoAP. 12" or "SoAP. 12". This option enables liquid supply output number 12 (if machine is equipped).

1. Press Temperature button to alter selection.

2. Press Enter to continue.

100. Display shows "Add" or "no Add". "Add" will program a cool down, a timer stop or a soak cycle. "no Add" will disable this option.
101. Press Temperature button to alter selection.
102. Press Enter to continue.
103. Display shows "iS.tiLt.xx" (xx = number of attempts). This option programs the number of times machine should attempt an intermediate extract in the event that an out of balance situation occurs.
104. Enter a value using the keypad. A value of 5 or "iS.tiLt.05" is recommended.
105. Press Enter to continue.
106. Display shows "ES.tiLt.xx" (xx = number of attempts). This option programs the number of times machine should attempt a final extract in the event that an out of balance situation occurs.
107. Enter a value using the keypad. A value of 10 or "ES.tiLt.10" is recommended.
108. Press Enter to continue.
109. Display shows "HYSt x" (x = temperature differential). This option programs the temperature differential for supplemental heating and temperature controlled water.
110. Enter a value using the keypad. A value of 5° C/9° F is recommended.
111. Press Enter to continue.
112. Display shows "bu =" or "no bu =". "bu =" enables a buzzer sound at end of program, "no bu =" disables the buzzer.
113. Press Temperature button to alter selection.
114. Press Enter to continue.
115. Display shows "SP rPn" or "SP GF". This option programs speed in RPM or G Force (G Force is recommended).
116. Press Temperature button to alter selection.
117. Press Enter to continue.
118. Display shows "no t" or "t". "t" enables viewing the temperature on the display when the Temperature button is pressed.
119. Press Temperature button to alter selection.
120. Press Enter to continue.
121. Display shows "noACCL" or "ACCL". "ACCL" enables the Rapid Advance feature.
122. Press Temperature button to alter selection.
123. Press Enter to continue.
124. Display shows "noEnEr" or "EnEr". "EnEr" enables the Stop button.
125. Press Temperature button to alter selection.
126. Press Enter to continue.
127. Display shows "no ALArn" or "ALArn". "ALArn" enables viewing various alarm codes on the display in the event of a fault.
128. Press Temperature button to alter selection.
129. Press Enter to continue.
130. Display shows "no.t .iHoLd" or "t .iHoLd". "t .iHoLd" enables a timer hold feature for use in conjunction with the liquid supply system.
131. Press Temperature button to alter selection.
132. Press Enter to continue.

NOTE: This feature is used when a single chemical dispenser is feeding two machines and the dispenser can only serve one machine at a time. If one machine is being served, the dispenser opens a busy relay connected to timer hold inputs. When a second machine needs chemicals, the program timer pauses and waits until busy relay is closed, then proceeds with the chemical signals. If there is

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no chemical system that uses this feature, select "no.t .iHoLd", otherwise there will be no chemical signals at all, even in Test Mode.

133. Display shows "no.dEFAuL" or "dEFAuL". "dEFAuL" will use preset default values when programming water levels and speed.
134. Press Temperature button to alter selection.
135. Press Enter to continue.

NOTE: If "no.dEFAuL" was selected, Setup (Pre-Program) Mode is done and will return to "StArt".

136. Display shows "AG.A.n xxx" (xxx = number of seconds). This option programs the number of seconds for cylinder to rotate before stopping to reverse.
137. Enter a value using the keypad. A value of 12 or "AG.A.n 012" is recommended.
138. Press Enter to continue.
139. Display shows "AG.S.n xxx" (xxx = number of seconds). This option programs the number of seconds for cylinder to pause before rotating in opposite direction.
140. Enter a value using the keypad. A value of 3 or "AG.A.n 003" is recommended.
141. Press Enter to continue.
142. Display shows "dUASh. xx" (xx = default wash speed). This option programs the default wash speed.
143. To enter a wash speed (in RPM) other than .8 Gs, use the keypad to enter a wash speed.

NOTE: Press the temperature button to automatically select the optimal wash speed of .8 Gs for the machine size. Refer to *Table 1*.

Model	Optimal RPM	G-Force
40 Pound	46	.8
60 Pound	43	.8
80 Pound	39	.8
100 Pound	39	.8
125 Pound	36	.8
140 Pound	36	.8
175 Pound	36	.8

Table 1

144. Press Enter to continue.
145. Display shows "LE.Lo.Pxxx" (xxx = low water level). This option programs default low water level in percentage or centimeters, depending on selection earlier in Setup (Pre-Program) Mode. Refer to *Step 13*.
146. Enter a value using the keypad. A value of 15 is recommended.
147. Press Enter to continue.
148. Display shows "LE.nE.Pxxx" (xxx = medium water level). This option programs default medium water level in percentage or centimeters, depending on selection earlier in Setup (Pre-Program) Mode. Refer to *Step 13*.
149. Enter a value using the keypad. A value of 20 or "LE.nE.P020" is recommended.
150. Press Enter to continue.
151. Display shows "LE.Hi.P xxx" (xxx = high water level). This option programs default high water level in percentage or centimeters, depending on selection earlier in Setup (Pre-Program) Mode. Refer to *Step 13*.
152. Enter a value using the keypad. A value of 25 or "LE.Hi.P025" is recommended.
153. Press Enter to continue.
154. Display shows "SP.Lo.G.xxx" (xxx = low extract speed). This option programs default low extract speed in RPM or G Force, depending on selection earlier in Setup (Pre-Program) Mode. Refer to *Step 118*.
155. Enter a value using the keypad. Refer to the ***Installation Manual*** for default values.
156. Press Enter to continue.
157. Display shows "SP.nE.G.xxx" (xxx = medium extract speed). This option programs default medium extract speed in RPM or G Force, depending on selection earlier in Setup (Pre-Program) Mode. Refer to *Step 118*.
158. Enter a value using the keypad. Refer to the ***Installation Manual*** for default values.
159. Press Enter to continue.
160. Display shows "SP.Hi.G.xxx" (xxx = high extract speed). This option programs default high extract speed in RPM or G Force, depending on selection earlier in Setup (Pre-Program) Mode. Refer to *Step 118*.
161. Enter a value using the keypad. Refer to the ***Installation Manual*** for default values.

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162. Press Enter to continue.
163. Display shows "UAit..." for 2 seconds and then shows "StArt" when complete.
164. Turn programming key back to Run.

Test Mode

NOTE: If programming key is not turned to Prog when this is attempted, "A0" will flash on display.

In order to access Test Mode, ensure that "StArt" is on display.

1. Turn programming key to Prog and very quickly press "Enter 217" on keypad.

NOTE: If "Prog 17" appears, keys were not pressed quickly enough. Press Stop button to abort and repeat process.

2. When "tESt" appears on display you are in Test Mode.
3. Once "tESt" appears on display, select test to perform.
4. Press Enter to begin test.

Test 1: Inputs

This test can be used to check all inputs to PS40 control.

Display	Input Signal
inP.tHEr.o	Motor overload protector
inP.hEY.o	Programming switch
inP.LoCh.o	Door lock switch S2 (Lock solenoid)
inP.door.c	Door lock switch S1 (Door closed switch and magnetic sensor)
inP.tiLt.o	Vibration switch
inP.SEnS.o	Proximity sensor (Basket rotation)
inP.Coi1.o	Inverter balance signal
inP.Coi2.o	Timer hold

Table 2

1. With "tESt" on the display, press 1 on keypad.
2. The first Input Signal will be displayed.
3. Display will indicate whether input contacts are open or closed using last character on right (o = open, c = closed).
4. Press Enter to advance to next input. Press Temperature button to go back to previous.
5. Press Stop button to leave test.

Example: "inP.tHEr.o" means motor overload protector is open. "inP.tHEr.c" means motor overload protector is closed.

NOTE: Activating or deactivating the input will change open and closed state to verify component operation.

Test 2: Analog Reference

Tests analog reference output voltage in comparison to cylinder speed.

NOTE: Because PS40 control does not try to compensate for speed in this mode, running RPM will not necessarily match commanded RPM – this is normal.

1. With "tESt" on the display, press 2 on the keypad.
2. After selecting Test 2, display will show "P000ux.xx".
3. Press Enter.
4. Door will now lock.
5. Press Enter.
6. The cylinder will rotate in reverse direction in wash speed and the RPM and analog output will be displayed: such as "LO46u.39" (numbers on left of decimal point indicate running RPM, numbers on right of decimal point indicate analog voltage).
7. Press Enter.
8. Display will show "Pxxxux.xx".
9. Press Enter.
10. Cylinder will rotate in forward direction in wash speed and RPM and analog output will be displayed: such as "r046u0.39".
11. Press Enter.
12. Cylinder will rotate in distribution speed and RPM and analog output will be displayed: such as "d046u0.39".
13. When drive SmartSpin signal turns on, "bS" will be displayed in lower Program Number/Alarm display.

NOTE: Test SmartSpin speed by pressing 1 on the keypad. Display will show "S...".

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14. Press Enter to test Low or High wash speed or while "bS" is displayed in Program Number/ Alarm display.
15. Cylinder will rotate forward in low extract speed and RPM and analog output will be displayed: such as "L335u03.40".
16. Press Enter.
17. Cylinder will rotate forward in high speed extract and RPM and analog output will be displayed: such as "H715u7.20".
18. Press Stop.
19. Cylinder will slow to a stop and door will unlock.
20. Press Stop.

Test 3: Not Available

Proceed to Test 4.

Test 4: Water Level Control Test

1. With "tESt" on the display, press 4 on the keypad.
2. Immediately after selecting Test 4, display will show current water level in machine.

Example: "t4.LEV 35.0" indicates test 4 water level 35.0%.

3. Press 0 button on keypad to calibrate empty water level.
4. Press Start button and drain will close and machine will begin taking in water.
5. Water will continue to fill until Stop button is pressed.
6. Display will indicate water level as it increases. This will be quite useful in order to select water level settings for programming.
7. Press Stop button again to leave this test.

PS40 Water Level Sensor Calibration Procedure

1. Verify machine is properly installed. Check water supply and drain connections.
2. Power-up machine.
3. From "StArt" display, press "Enter 217" to enter Test Mode. These buttons must be pressed in rapid succession. If not entered quickly, machine will return to "StArt" or "Prog" display and it will be necessary to press Stop and try again.
4. From "tESt" display, press 4 button on keypad for water level sensor calibration.
5. Close door.
6. Press 0 button on keypad to zero sensor. Wait for drain to open, display to go to "0" and drain to close.
7. Press Start to begin filling shell with water.
8. When water reaches center of basket back, press Stop to stop filling.
9. Wait a few minutes for excess water to drain out through overflow hose and level to stabilize.
10. Press 1 button on keypad to access fill measurement.
11. 40 Pound Model – Press "343 Enter" to enter correct water level (343 mm).

    60 Pound Model – Press "394 Enter" to enter correct water level (394 mm).

    80 Pound Model – Press "470 Enter" to enter correct water level (470 mm).

    100 Pound Model – Press "470 Enter" to enter correct water level (470 mm).

    125 Pound Model – Press "510 Enter" to enter correct water level (510 mm).

    140 Pound Model – Press "546 Enter" to enter correct water level (546 mm).

    175 Pound Model – Press "586 Enter" to enter correct water level (586 mm).
12. Press Stop to drain machine.
13. Press Stop to exit Test Mode.
14. Procedure is complete.

Test 5: Temperature Sensor Test

1. With "tESt" on the display, press 5 on keypad.
2. Immediately after selecting Test 5, PS40 control will display current temperature in machine.

Example: "t5.078.3° F" indicates test 5 temperature is 78.3 degrees.

3. Press Stop button to end this test.

Test 6: Test of Outputs

1. With "tESt" on the display, press 6 on the keypad.
2. To select output, press Enter.

NOTE: To go back to previous output, press Temperature button.

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3. Press 1 button on keypad to turn on selected output. Press 0 button on keypad to turn off selected output.
4. Press Enter to go to next output.
5. Repeat steps 2-4 for each output. Refer to *Table 3* for list of outputs.
6. Press Stop button to end this test.

Example: "out.dooR.o" indicates this output is turned off (door can be opened). "out.dooR.c" indicates this output is turned on (door is locked).

Display	Output
out.door.o	Door lock output is open.
out. rd1.o	Reuse drain 1 output is open.
out. rd2.o	Reuse drain 2 output is open.
out. rP .o	Recirculation pump output is open.
out. i.r3 .o	Reuse water inlet valve number 3 output is open.
out. i.r2 .o	Reuse water inlet valve number 2 output is open.
out.HEAt.o	Supplemental heating system output is open.
out. i.r1 .o	Reuse water inlet valve number 1 output is open.
out.i.FLu.o	Flush valve i.9 output is open.
out.i.Hot.o	Hot water inlet valve output is open.
out.i.Col.o	Cold water inlet valve number output is open.
out. i.6 .o	Inlet valve number i.6 output is open.
out. i.5 .o	Inlet valve number i.5 output is open.
out. i.4 .o	Inlet valve number i.4 output is open.
out. i.3 .o	Inlet valve number i.3 output is open.
out. i.2 .o	Inlet valve number i.2 output is open.
out. i.1 .o	Inlet valve number i.1 output is open.
out.So.1 .o	Liquid supply number 1 output is open.

Table 3 (continued)

out.So.2 .o	Liquid supply number 2 output is open.
out.So.3 .o	Liquid supply number 3 output is open.
out.So.4 .o	Liquid supply number 4 output is open.
out.So.5 .o	Liquid supply number 5 output is open.
out.So.6 .o	Liquid supply number 6 output is open.
out.So.7 .o	Liquid supply number 7 output is open.
out.So.8 .o	Liquid supply number 8 output is open.
out.So.9 .o	Liquid supply number 9 output is open.
outSo.10.o	Liquid supply number 10 output is open.
outSo.11.o	Liquid supply number 11 output is open.
outSo.12.o	Liquid supply number 12 output is open.
out.drA.1.o	Drain valve number 1 output is open.
out.drA.2.o	Drain valve number 2 output is open.

Table 3

Test 7: Keyboard Test

1. With "tESt" on the display, press 7 button on the keypad.
2. Immediately after selecting Test 7 "t7. - -" will appear on display.
3. The corresponding display for each key pressed on keypad should be shown on display and Program Number/Alarm display.
4. To end this test, press Stop button.

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Ram Reset

Should it be necessary to erase all programming from PS40's memory, use this procedure.

Example: Change of chemical suppliers, where deletion and reprogramming of all programs is required, or corrupted memory.

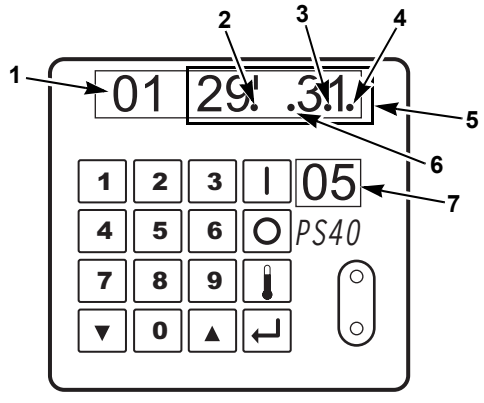
1. While "tESt" is on display, press 0 button on the keypad.
2. "CodE" will now be shown on display.
3. Very quickly, press "753".
4. Wait a few seconds for display to change, then cycle power to machine.
5. Everything from memory has been erased and machine must be setup (pre-programmed) prior to operation. Refer to ***Setup (Pre-Program) Mode***.

Operating Mode

Select and Run a Program

1. Make sure programming key switch is turned to Run position.
2. With keypad, select a program to operate.
3. Press start. Program is now in operation.

Program Progress Indicators



1	Cycle Step Number
2	Delay Indicator
3	"HECo" Indicator
4	"LECo" Indicator
5	Cycle Time Remaining
6	Drain Indicator
7	Cycle Number

Figure 3

As program is progressing, program number and time remaining will be displayed (not including fill or heating times). Refer to *Figure 3* – the control is on step 01 of program 05 and there are 29 minutes and 31 seconds left on timer.

NOTE: Programming "LECo" and "HECo", where applicable, determine whether time remaining includes fill and heat times.

If "LECo" is programmed, when machine is filling with water, the decimal point on far right of display will flash. Once level is satisfied, light will be continuous and time will count down. Refer to *Figure 3*

If a bath requires supplemental heating and "HECo" is programmed, the decimal point second from right of display will flash and time will remain constant. Once programmed temperature is achieved, light will stay on. Refer to *Figure 3*

If a machine is draining, the decimal point third from right on display will flash. Refer to *Figure 3*

If a program has completed, "Pxx. End" where xx is the cycle number last used will be displayed. If a "Signal" was programmed it will sound at this point for 10 seconds. Open door and display will revert to "StArt".

Program Start Delay

1. After selecting a program to run, press and hold start button for approximately 5 seconds.
2. "dELAY.xx" (xx = number of hours of delay) appears on display.
3. Using the keypad, input number of hours of delay for program to begin operating (1-99).
4. Press Start and display will show "dELAY.xx" where xx is the programmed delay time and decimal point will begin flashing. Refer to *Figure 3*.
5. The number of hours remaining will be displayed while counting down and, during the last hour, the minutes remaining will display and flash.
6. To cancel this operation, press Stop.

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Changing To Another Program

For the first 3 minutes after machine has started, it is possible to change the selected program to a different program.

1. To change to a different program simply input program number to change.
2. The display will now show "P.xx.StArt" (P.xx indicates new program number).
3. If this is correct program number, press Enter.

Temporary Program Alteration

1. Select a program number.
2. Before starting program, press and hold Temperature button.
3. While holding Temperature button in, press Enter.
4. Scroll through each program step using Enter button and make desired changes.
5. When finished, press Start to begin program. The program will now run with temporary alterations.

Temperature and RPM Display

By pressing Temperature button on keypad one time while program is in operation, the current temperature will be displayed.

Press Temperature button again and programmed temperature will be displayed momentarily.

Press Temperature button again and highest programmed temperature of program will be displayed momentarily.

Press Temperature button again and cylinder speed will be displayed momentarily.

By pressing and holding Temperature button for 3 seconds during any of the above, display will remain at that function until Temperature button is pressed again.

Rapid Advance

Pushing and holding Enter button on keypad can rapid advance a program through each program step. Rapid Advance will stop at each drain step and Enter button must be released and pressed again in order to continue with Rapid Advance sequence.

Rapid Advance feature may be disabled by selecting "no ACCL" in Setup (Pre-Program) Mode. Refer to ***Setup (Pre-Program) Mode*** section.

Programmed Stop

If an indefinite time stop (0 minutes) was programmed, the program will pause and wait for operator to restart program. Water will stay in machine and all cylinder movement will cease. Display will show "StoP". Program will not continue until Start button is pressed.

If a programmed time stop was programmed (1-999 minutes), display will alternate between "StoPtinE" and remainder of programmed stop time. Time stop can also be interrupted by pressing Start button.

NOTE: If a signal has been programmed, it will sound at beginning of "Programmed Stop Time". If a stop was programmed during "Final Spin/ Extract", program will automatically resume after 20 minutes.

Stopping a Program

1. To terminate a program, press Stop button on keypad.
2. After 5 seconds machine will drain water and "oPEn door" will appear on display after approximately 30 seconds.
3. Open door and "CLoSE" will appear on display.
4. Close door and display will flash program and time information where it was stopped.
5. Cycle may be resumed after closing door and pressing Start or stopped by pressing Stop button.
6. Press Stop button and display will show "StoP" and "PXX End".
7. Open door and display will return to "StArt".

Stop button may be disabled by selecting "no EnEr" in Setup (Pre-Program) Mode. Refer to ***Setup (Pre-Program) Mode*** section.

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Manually Adding Water

After program has been running for 3 minutes, add more water to machine by first pressing and releasing 1 button on keypad, then pressing and holding buttons "1-9" on keypad. After releasing button, water will shut off and water level will be displayed for 3 seconds. Buttons 1 - 9 correspond to the following water inlet valves.

1. Cup 1
2. Cup 2 (optional)
3. Cup 3 (optional)
4. Cup 4 (optional)
5. Cup 5 (optional)
6. Cup 6 (not used on this machine)
7. Cold water inlet
8. Hot water inlet
9. Chemical flush

For machines equipped with water reuse inlet valves, access these by first pressing and releasing 2 button on keypad, then pressing button on keypad that corresponds with desired reuse water inlet valve (1 = water reuse valve number 1, 2 = water reuse valve number 2, etc.).

Manually Draining

After program has been running for 3 minutes, drain water by pressing 0 button on keypad, then pressing corresponding drain valve number on keypad (1 = drain valve number 1, 2 = drain valve number 2, etc.). Water level will be displayed while pressing these buttons, so water can be drained back down to a desired level.

Manual Heating

After program has been running for 3 minutes, activate heating system by pressing and holding 4 button on keypad (if machine is equipped with an optional electrical or steam heating system). While button is pressed, temperature will be shown on display and supplemental heating system will be activated until button is released.

Manually Activating the Chemical Supply Signals

After program has been running for 3 minutes, activate liquid supply outputs 1-12 by first pressing and releasing 3 button on keypad and then pressing corresponding number on keypad for desired liquid supply output. Hold button in for desired output length, then release.

Display Total Operating Hours

Before machine has been started, quickly press "Enter 223" and total hours machine has been run will be displayed for 5 seconds.

Program Memory Inventory

Before machine has been started, quickly press "Enter 788" and display will show first program in machine and total number of steps in that program.

Example: "Prg01.08" means program 1 contains 8 steps.

After 1 second, next program in machine will be displayed and so forth.

After last program in machine is displayed, total number of free program steps will be displayed.

Press Enter and display will return to "StArt".

Entering Programming Mode

1. In order to access Programming Mode, ensure "StArt" is on display.
2. Turn programming key to Prog and very quickly press "Enter 455" on keypad.

NOTE: If "Prog 05" appears, keys were not pressed quickly enough. Press Stop to abort and start over.

3. When "ProG" appears on display (flashing), you are in Programming Mode.

NOTE: If programming key is not turned to Prog when this is attempted, "A0" will flash on display.

Creating a Program

1. Enter Programming Mode. Refer to ***Entering Program Mode***.
2. Press Enter.
3. Display shows "ProG xx" (xx = program number).
4. Use the keypad to enter program number to program or modify.
5. Press Enter.
6. Display shows "xxid xx".

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NOTE: The first "xx" indicates program number selected, "id xx" indicates program step or bath, (i.e. "02id 01" indicates Program 2, Step number 1). A program step, or bath, is a part of a wash program (prewash, main wash, rinse, etc.) and always ends with the option of a drain or extract. Enter program step number to program and press Enter.

7. When entering program, display will be last step programmed, press Enter to go into last step or key in the desired step number.
8. Press Enter to continue.
9. Display shows "xx. Cyti" (xx = program step). These are the cycle or program step times - not including fill, drain or extract time (no user input required).
10. Press Enter to continue.
11. Display shows "t xx.xx".
12. Use the keypad to input the desired agitation time for this step, in minutes and seconds.
13. Press Enter to continue.
14. Display shows "xx.rotE".
15. This is cylinder action and pause times (Dwell). No user input required.
16. Press Enter to continue.
17. Display shows "AG.Force" or "AG.nornal". This chooses the wash action type. Use the Temperature button to toggle between wash action types.
    a. Program "AG.nornal" to use default wash actions preset in Setup (Pre-Program) Mode, press Enter button. Skip to Step 18 if this is programmed.
    b. Program "AG.Force" to use a wash action other than what was preset in Setup (Pre-Program) Mode as default, press Enter. Continue to next step.
        1. Press Enter to continue.
        2. Display shows "A xx.x" (xx.x = number of seconds).
        3. Use the keypad to input the number of seconds for cylinder to rotate before pausing to reverse direction (i.e. "A 12.0").
        4. Press Enter to continue.
        5. Display shows "S xx.x" (xx.x = number of seconds).
        6. Use the keypad to input the number of seconds for cylinder to pause before turning in opposite direction (i.e. "A 03.0").
        7. Press Enter to continue.
        8. Display shows "SP xx" (xx = wash speed).

Model	Optimal RPM	G-Force
40 Pound	46	.8
60 Pound	43	.8
80 Pound	39	.8
100 Pound	39	.8
125 Pound	36	.8
140 Pound	36	.8
175 Pound	36	.8

Table 4

        9. Use the keypad to input the wash speed in RPM (i.e. "SP 42"). Refer to *Table 4* for optimal RPM values.
        10. Press Enter to continue.

NOTE: For optimal mechanical action, a horizontal axis washer should turn at a speed corresponding to .8 G's – this speed is dependent on cylinder diameter. So as a machine gets bigger, proper wash speed gets slower. When running at .8 G's, the laundry in a machine will fall from about the 1 o'clock position to the 7 o'clock position (running counterclockwise – refer to *Figure 4*).

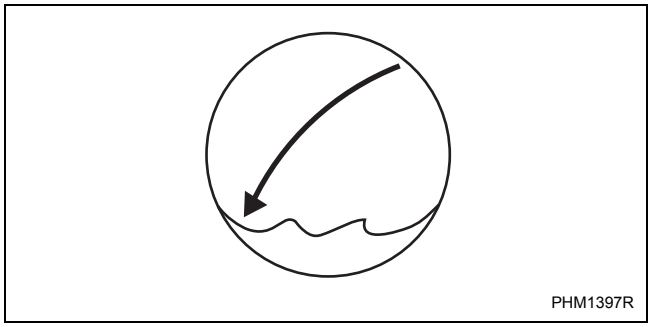

Figure 4

NOTE: If gentle action is needed, a very slow speed can be programmed, such as 10 RPM.

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18. Display shows "xx.tENP" (xx = temperature of bath).
19. This is the temperature of this program step or bath. No user input required.
20. Press Enter to continue.
21. Display shows "F xxx"or "C xxx" (xxx = temperature).
22. Use the keypad to input the temperature desired for this program step or bath. If no temperature control is desired for this bath, enter "033" for F° or "000" for C°. This will allow you to specify which main fill valves are to open.
23. Press Enter to continue.

NOTE: The next step will be determined by "HEAtSYS" option chosen in Setup (Pre-Program) Mode.

If "HEAt-nod" was chosen in Setup (Pre-Program) Mode, select from:

- **"HEAt" (supplemental heating without temperature controlled water inlet). If this option is chosen, pressing Enter transfers to "no HECo" or "00. SE-I". Pressing Temperature button transfers to "nod".**
- **"HEAt-nod" (temperature controlled water inlets with supplemental heating). Pressing Enter transfers to "no HECo" or "00. SE-i". Pressing Temperature button transfers back to "HEAt".**
- **"nod" (temperature controlled water inlets without supplemental heating). Pressing Enter transfers to "00. SE-i". Pressing Temperature button transfers to "HEAt-nod".**

If "HEAt" was chosen during the preprogramming or configuration process, display will automatically go to "no HECo" or "00.SE-i".

If "nod" was chosen during the preprogramming or configuration process, display will automatically go to "XX. SE-i".

24. Display shows "no HECo" or "HECo". "HECo" will stop program until programmed temperature is reached.
25. Press Temperature button to alter selection.
26. Press Enter to continue.
27. Display shows "t xx.xx" (xx.xx = time program stops).
28. Use the keypad to input the time of program step where program will stop until programmed temper is reached (use "0" for beginning of program step).
29. Press Enter to continue.
30. Display shows "noGEntLE" or "GEntLE". "GEntLE" will enable cylinder to operate in Gentle Action Mode until programmed temperature is reached.
31. Press Temperature button to alter selection.
32. Press Enter to continue.
33. Display shows "xx. SE-I" (xx = water inlet selection).
34. This is the water inlet selection made during Setup (Pre-Program) Mode, no user input required.
35. Press Enter to continue.
36. Display shows "no i.1" or "i.1". "i.1" enables the Powdered Supply Compartment Number 1.
37. Press Temperature button to alter selection.
38. Press Enter to continue.
39. Display shows "no i.2" or "i.2". "i.2" enables the Powdered Supply Compartment Number 2.
40. Press Temperature button to alter selection.
41. Press Enter to continue.
42. Display shows "no i.3" or "i.3". "i.3" enables the Powdered Supply Compartment Number 3.
43. Press Temperature button to alter selection.
44. Press Enter to continue.
45. Display shows "no i.4" or "i.4". "i.4" enables the Powdered Supply Compartment Number 4.
46. Press Temperature button to alter selection.
47. Press Enter to continue.
48. Display shows "no i.5" or "i.5". "i.5" enables the Powdered Supply Compartment Number 5.
49. Press Temperature button to alter selection.
50. Press Enter to continue.
51. Display shows "no i.CoLd" or "i.CoLd". "i.CoLd" enables the main cold water inlet fill valve.

NOTE: A temperature of at least 33° for °F or 0 for °C should be programmed (Refer to *Step 22*) so water valves actuate for a warm (both hot and cold) fill.

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52. Press Temperature button to alter selection.

NOTE: If not altered there is no fill or flush of supply line hose.

53. Press Enter to continue.
54. Display shows "no i.Hot" or "i.Hot". "i.Hot" enables the main hot water inlet fill valve.
55. Press Temperature button to alter selection.

NOTE: If not altered there is no fill or flush of supply line hose.

56. Press Enter to continue.
57. Display shows "i.FLuSH" or "i.HArd". No user input required.
58. Press Enter to continue.
59. Display shows "xx. SE-LE". No user input required.
60. Press Enter to continue.
61. Display shows "LE Hi", "LE.Force", "LE Lo" and "LE ne". "LE.Force" programs a water level other than what was preset in Setup (Pre-Program) Mode.
    a. Press Enter
    b. Display shows "LEP xxx" or "LE.C xxx" (xxx = water level).
    c. Use the keypad to input the desired water level in percentage or millimeters (depending on selection made during Setup [Pre-Program] Mode).
    d. Press Enter
62. To use default water levels preset in Setup (Pre-Program) Mode, press Temperature button to toggle through "Lo" "ne" or "Hi" water level selections.
63. Press Enter to continue.
64. Display shows "no LE.Co" or "LE.Co". "LE.Co" pauses program time until a water level is achieved.
65. Press the Temperature button to alter selection.
66. Press Enter to Continue.

NOTE: If "no LE.Co" was selected, display will show "no SoAP".

67. Display shows "LESP xxx" (xxx = water level).
68. Use the keypad to input the water level when program time should resume. The level input should be less than or equal to what was programmed in Setup (Pre-Program) Mode.

NOTE: If a default water level (low, medium or high) was programmed, enter "99" and press Enter twice. The PS40 control will automatically select a number corresponding to water level.

69. Press Enter to continue.

NOTE: All machines are set up at factory to measure water levels in percentage (%). 0% is bottom of cylinder, 50% is half way up cylinder back and so on. This is done because, for example, a 10% water level will give the same performance on a 60 pound model as a 140 pound model, whereas a 10 inch (254 mm) water level will not give the same performance on different capacities. When transferring programs from a 60 pound model to a 140 pound model with inch-based water levels, all water levels would need to be adjusted. Programs with percentage-based water levels will work the same in any size machine with no modification.

70. Display shows "no SoAP" or "SoAP". "SoAP" utilizes 1 or more external liquid chemical supply outputs.
71. Press Temperature button to alter selection.

NOTE: If "no SoAP" was chosen, all soap options will be disabled and "no Add" or "Add" will be displayed (refer to *Step 73*).

72. Press Enter to continue.

NOTE: The number of external liquid chemical supply outputs available will be determined by equipment options chosen during Setup (Pre-Program) Mode.

    a. Display shows "no So1" or "So1". "So1" enables liquid supply output signal number 1.

NOTE: If "no So1" was selected the next available liquid supply output will be shown ("So2").

    b. Press Temperature button to alter selection

NOTE: Next step will be determined by "SoAP" option chosen during Setup (Pre-Program) Mode.

- **If "no SoAP" was chosen, "no Add" will be displayed.**

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- **If "SoAP" was chosen, "SoAP" (or "no SoAP") will be displayed.**

c. Press Enter to continue.

d. Display shows "t1. xxx" (xxx = number of seconds).

e. Use the keypad to input the number of seconds liquid supply signal number 1 is active.

f. Press Enter to continue.

g. Display shows "no So2" or "So2". "So2" enables liquid supply output signal number 2.

h. Press Temperature button to alter selection

i. Press Enter to continue.

j. Display shows "t2. xxx" (xxx = number of seconds).

k. Use the keypad to input the number of seconds liquid supply signal number 2 is active.

l. Press Enter to continue.

m. Display shows "no So3" or "So3". "So3" enables liquid supply output signal number 3.

n. Press Temperature button to alter selection

o. Press Enter to continue.

p. Display shows "t3. xxx" (xxx = number of seconds).

q. Use the keypad to input the number of seconds liquid supply signal number 3 is active.

r. Press Enter to continue.

s. Display shows "no So4" or "So4". "So4" enables liquid supply output signal number 4.

t. Press Temperature button to alter selection

u. Press Enter to continue.

v. Display shows "t4. xxx" (xxx = number of seconds).

w. Use the keypad to input the number of seconds liquid supply signal number 4 is active.

x. Press Enter to continue.

y. Display shows "no So5" or "So5". "So5" enables liquid supply output signal number 5.

z. Press Temperature button to alter selection

aa. Press Enter to continue.

bb. Display shows "t5. xxx" (xxx = number of seconds).

cc. Use the keypad to input the number of seconds liquid supply signal number 5 is active.

dd. Press Enter to continue.

ee. Display shows "no So6" or "So6. "So6" enables liquid supply output signal number 6.

ff. Press Temperature button to alter selection

gg. Press Enter to continue.

hh. Display shows "t6. xxx" (xxx = number of seconds).

ii. Use the keypad to input the number of seconds liquid supply signal number 6 is active.

jj. Press Enter to continue.

kk. Display shows "no So7" or "So7". "So7" enables liquid supply output signal number 7.

ll. Press Temperature button to alter selection

mm. Press Enter to continue.

nn. Display shows "t7. xxx" (xxx = number of seconds).

oo. Use the keypad to input the number of seconds liquid supply signal number 7 is active.

pp. Press Enter to continue.

qq. Display shows "no So8" or "So8". "So8" enables liquid supply output signal number 8.

rr. Press Temperature button to alter selection

ss. Press Enter to continue.

tt. Display shows "t8. xxx" (xxx = number of seconds).

uu. Use the keypad to input the number of seconds liquid supply signal number 8 is active.

vv. Press Enter to continue.

ww. Display shows "no So9" or "So9". "So9" enables liquid supply output signal number 9.

xx. Press Temperature button to alter selection

yy. Press Enter to continue.

zz. Display shows "t9. xxx (xxx = number of seconds)".

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aaa. Use the keypad to input the number of seconds liquid supply signal number 9 is active.

bbb. Press Enter to continue.

ccc. Display shows "no So10" or "So10". "So10" enables liquid supply output signal number 10.

ddd. Press Temperature button to alter selection

eee. Press Enter to continue.

fff. Display shows "t10. xxx" (xxx = number of seconds).

ggg. Use the keypad to input the number of seconds liquid supply signal number 10 is active.

hhh. Press Enter to continue.

iii. Display shows "no So11" or "So11". "So11" enables liquid supply output signal number 11.

jjj. Press Temperature button to alter selection.

kkk. Press Enter to continue.

lll. Display shows "t11. xxx" (xxx = number of seconds).

mmm. Use the keypad to input the number of seconds liquid supply signal number 11 is active.

nnn. Press Enter to continue.

ooo. Display shows "no So12" or "So12". "So12" enables liquid supply output signal number 12.

ppp. Press Temperature button to alter selection

qqq. Press Enter to continue.

rrr. Display shows "t12. xxx" (xxx = number of seconds).

sss. Use the keypad to input the number of seconds liquid supply signal number 12 is active.

ttt. Press Enter to continue.

73. Display shows "no Add" or "Add". "Add" programs either a Cool Down cycle, a Stop cycle or Soak cycle in this step.

NOTE: If "no Add" selected, skip to *Step 79*.

NOTE: When programming either a Cool Down, Stop or Soak cycle, refer to the appropriate step.

- **Cool Down Cycle: Step 76**
- **Stop Cycle: Step 77**
- **Soak Cycle: Step 78**

74. Press Temperature button to alter selection.

75. Press Enter to continue.

76. Display shows "Cool". Enabling this option inserts a cool down cycle in this program step.

    a. Press Enter to continue.

    b. Display shows "Cdu.\xxx" (xxx = temperature).

    c. Use the keypad to input the highest cool down temperature desired in first increment. (minimum 1°F/-17°C or maximum 180°F/82°C)

    d. Press Enter to continue.

    e. Display shows "Cdu. xxx" (xxx = temperature).

    f. Use the keypad to input the lowest cool down temperature desired in first increment. (minimum 86°F/30°C or maximum 185°F/85°C)

    g. Press Enter to continue.

    h. Display shows "Cdn.\xxx" (xxx = temperature).

    i. Use the keypad to input the highest cool down temperature desired in last increment. (minimum 1°F/-17°C or maximum 180°F/82°C)

    j. Press Enter to continue.

    k. Display shows "Cdn xxx" (xxx = temperature).

    l. Use the keypad to input the lowest cool down temperature desired in last increment. (minimum 86°F/30°C or maximum 185°F/85°C)

    m. Press Enter.

77. Display shows "Stop". Enabling this option inserts a Stop cycle in this program step.

    a. Press Temperature button to alter selection.

    b. Press Enter to continue.

    c. Display shows "StoP.xxx" (xxx = number of minutes.

    d. Use the keypad to input the number of minutes (up to 999) that program stops.

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NOTE: If "SiGnAL" was selected during Setup (Pre-Program) Mode, "SiGnAXXX" will be displayed.

e. Press Enter to continue.

78. Display shows "SoAH". Enabling this option inserts a Soak cycle in this program step.
    a. Press Temperature button to alter selection.
    b. Press Enter to continue.
    c. Display shows "SoAH.xxx" (xxx = number of minutes).
    d. Use the keypad to input the number of minutes (up to 999) for Soak cycle to last.

NOTE: If "SiGnAL" was selected during Setup (Pre-Program) Mode, "SiGnAXXX" will be displayed.

e. Press Enter to continue.

79. Display shows "no SPin" or "SPin". "SPin" enables a spin/extract at the end of this program step.

NOTE: If "SPin" is selected, continue to Step 92. If "no SPin" is selected, continue to Step 98.

80. Press Temperature button to alter selection.
81. Press Enter to continue.
82. Display shows "SPi.t.xx.xx".
83. Use the keypad to input the number of minutes and seconds for extract step. The first xx represents minutes and the last xx represents seconds.
84. Press Enter to continue.
85. Press Temperature button between "SP Lo", "SP nE", "SP Hi", "SP.SnArt," and "SP.ForcE".
    a. "SP.ForcE" enables the desired extract speed. To use an extract speed other than what was preset in Setup (Pre-Program) Mode as defaults, press Enter.
    b. Enter extract speed desired in G-Force or RPM, depending on selection made during Setup (Pre-Program) Mode.
    c. To use default extract speeds preset in Setup (Pre-Program) Mode, press the Temperature button.
    d. Display shows "SP.Lo" for low speed, "SP.ne" for medium speed, "SP.Hi" for high speed or "SnArt" for SmartSpin.
86. Press Temperature to alter selection.
87. Press Enter to continue.

NOTE: To obtain same extract performance in different sized machines, extract speeds are commonly expressed in "G's". For example, a very large machine spinning at 500 RPM will remove more water than a small machine spinning at the same RPM. However, if a large machine spins at 80 G's it will perform the same as a small machine spinning at 80 G's. For this reason it is convenient to program extracts in G's so when programs are transferred to machines of different sizes, the same extract results will be obtained.

NOTE: All washer-extractors rotate counter clockwise in extract step.

NOTE: When SmartSpin is selected in extract step, the machine uses a process to determine the amount that the cylinder is out of balance. The maximum safe spin speed for that load is calculated, allowing the machine to spin as high as 300 G's. This ground breaking feature is a powerful tool for processing textiles like towels or sheets that need to be as dry as possible. More water is removed at higher extract speeds so they spend less time in dryer.

88. Display shows "dX".

NOTE: If "no SPin" was selected in Step 89, "d0" will be added and programming will proceed to "dt XXX".

89. Use Temperature button to select from "d1" (drain 1), "d2" (drain 2), "rd1" (reuse drain 1) or "rd2" (reuse drain 2) depending on equipment options selected during Setup (Pre-Program) Mode.
90. Press Enter to continue.
91. Display shows "xx. dEt". No user input required.
92. Press Enter to continue.
93. Display shows "td xxx" (xxx = coast time).
94. Use the keypad to input desired coast delay time . Delay time starts when cylinder begins stopping.
95. Display shows "t = xx.xx", this is total time for this program step (plus fill and heating). No user input required.
96. Continue to Step 114.
97. Display shows "d1".
98. Press Enter to continue.

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99. Display shows "td xxx" (xxx = drain time).
100. Use the keypad to input number of seconds for machine to drain (30 to 40 seconds is recommended).
101. Press Enter to continue.
102. Display shows "dRAin", "UASH", "diSt" and "JoLt".
103. Select the cylinder movement while draining. "drAin" - no movement, "UASH" - normal wash action, "diSt" - distribution speed or "JoLt" - repeated 10 second low extract followed by right and left tumble).
104. Press Temperature button to alter selection.
105. Press Enter to continue.
106. Display shows "t=xx.xx", this is total time for this program step (plus fill and heating). No user input required.
107. Press Enter to continue.
108. Display shows "FrEE=xxx", this is free area left in RAM available for programming. No user input required.
109. Press Enter to continue.
110. Display shows "no End" or "End". "End" will complete programming for this program number.
111. Press Temperature button to enter next step number to continue programming.
112. Press Enter to continue.
113. Display shows "tu xxx" (xxx = number of seconds).
114. Use the keypad to input the number of seconds for cylinder to tumble in wash speed before ending program and unlocking loading door.

NOTE: If "SiGnAL" was selected during Setup (Pre-Program) Mode, "SiGnAxxx" will be displayed.

115. Press Enter to continue.
116. Display shows "dAtA.xxxx" and then change to "StArt", exiting Programming Mode.

Inserting/Deleting a Program Step

1. Enter Program Mode. Refer to *Enter Programming Mode*.
2. Display shows "ProG 00".
3. Use the keypad to enter the program number to program or modify.
4. Press Enter.

To Insert a Step

00.id 00	Enter "Program Step" where "New Program Step" will be inserted. Press Enter. Now press Start.
00 inS	Press Temperature button. A new program step has been inserted.

Table 5

Example: 03.id 04

Enter "Program Step" where "New Program Step" will be inserted.

Press Enter (program number 3 is selected, step number 4).

Press Start. "04 inS" appears on display.

Press Enter. A new program step has been inserted in place of program step number 4 and old program step number 4 has been moved to program step number 5.

To Delete a Step

00.id 00	Enter "Program Step" to delete. Press Enter. Now press Stop.
00 dEL	Press Enter. The program step has been deleted.

Table 6

Example: 03.id 04

Enter "Program Step" to delete.

Press Enter (program number 3 is selected, step number 4).

Press Stop. "04 dEL" appears on display.

Press Enter. Program step number 4 has been deleted and program step number 5 has been moved into its place.

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Copy Mode

In order to access Copy Mode, ensure "StArt" is on display and turn programming key to Prog. Very quickly press "Enter 328" on keypad. If "Prog 08" appears, keys were not pressed quickly enough. Press Stop to abort and start over. If "CoPY PrG" appears on display, Copy Mode is activated.

NOTE: If programming key is not turned to Prog when this is attempted, "A0" will appear on display indicating Copy Mode has been locked out.

Copy Prg	Press Enter.
Source.00	Enter two-digit source program number – this is the program number to make a copy of. Press Enter.
Dest .00	Enter two digit destination program number – this is the program number to store copy in. Press Enter.
01....02	The PS40 will display "source . . . . destination" program numbers to confirm operation. Press Enter to complete operation or Stop to abort operation.

Table 7

Example: To copy program 41 to program 5, do the following. Enter Copy Mode as explained above.

Source.00: Enter source program number (41) on keypad.

Source.41: Press Enter.

Dest .00: Enter destination program number (05) on keypad.

Dest .05: Press Enter.

41....05: Press Enter to confirm operation.

Start: The display will return to "StArt" prompt. The program has been copied.

PS40 Diagnostics

Alarm Codes

Alarm codes are used to alert operator to problems with machine's performance. However, because alarms do not indicate safety problems, they do not interrupt operation of machine. When an alarm occurs, control will flash code on Program Number/Alarm display (refer to *Figure 2*) to get operator's attention. Operator should make note of this code and report it to a technician so issue can be resolved. Note that all alarm codes are composed of the letter "A" followed by a code reference number.

Code	Description
A0	Program key was in wrong position when trying to access Programming Mode. Press Enter to clear.
A2	Program selected does not exist. Press Enter to clear.
A3	Machine has not been setup (pre-program) or memory has been lost. Refer to ***Start Up*** section. Press Enter to clear.
A4	Programmed water level was not achieved within 15 minutes. Press Enter to clear.
A5	Programmed temperature for supplemental heating was not achieved within 60 minutes. Press Enter to clear.
A6	Temperature in cylinder is unsafe at end of a program (greater than 150°F [65°C]). Wait until load cools to prevent burns. Press Enter to clear.
A7	There is water remaining in machine at end of program. Press Enter to clear.
A8	Temperature sensor is not working properly. Press Enter to clear.
A9	Rear enclosure temperature too high. Clean cooling fan filter. Press Enter to clear.
Ab	There is already water in the machine when a program was started (check for leaking water valves). Press Enter to clear.
Ac	There was water remaining in machine after 3 minutes of draining (check for clogged drain). Press Enter to clear.
Ad	Machine is not running at correct speed or speed sensor is damaged. Press Enter to clear. **NOTE: Anything that stops analog voltage or directional voltage could cause alarm (i.e. loose door switch connections).**
AG	Final extract was at a lower speed than programmed (fixed mount machines only). Load could not be balanced for a fixed speed spin.
AH	Final extract was skipped (free standing machines only).

Table 8

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Fault Codes

Fault codes indicate safety issues, which may cause operator injury or property loss. Thus, when an alarm occurs, control will lock out machine's operation until power has been cycled and a technician corrects problem. Note that all fault codes are composed of letter "F" followed by a code reference number.

Code	Description
F1	Invalid control configuration or corrupted PS40 firmware. Load a new version or call for service.
F5	Door open switch was tripped during program. Door lock mechanism is malfunctioning. This problem must be corrected and power to machine cycled in order to clear it.
F6	Door locked switch was tripped during program. Door lock mechanism is malfunctioning. Problem must be corrected and power to machine cycled in order to clear it.
FA	Vibration switch is tripped at beginning of program. Correct problem and cycle power to clear.
E	Check keypad.

Table 9

Programming Tips

- Avoid using spins after wash program segments. This can cause suspended soil to be redeposited in fabric before it can be rinsed out.
- For optimum agitation, program wash speed at 0.8 G's (ex. 42 RPM in 60 pound, 38 RPM in 80/100 pound) for machine. This will give best drop in cylinder and best soil removal.
- Use SmartSpin in programs for processing cotton and other sturdy goods that can take higher extract forces. This will reduce drying time and energy consumption.
- High spin speeds (> 80 G's) can set wrinkles in goods made of Visa and some other synthetic materials.
- For processing non-porous rubber mats, try a long "JoLt" drain period instead of a final extract. Jolt routine alternates short spin and tumble segments and will effectively remove water from non-porous goods because they are continuously rearranged, freeing water trapped in pockets.

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Standard Programs

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Program 1	Cold Wash
Program 2	Warm Wash
Program 3	Hot Wash
Program 4	Perm Press
Program 5	Cold Gentle
Program 6	Warm Gentle
Program 7	Rubber Mats
Program 8	Soak
Program 9	Starch

Table 10

Dispenser Assignments	
Cup1	Break 1 / Starch
Cup2	Break 2
Cup3	
Cup4	
Cup5	Sour / Softener

Table 11

Inlet Assignments	
1	Cup 1
2	Cup 2
3	Cup 3
4	Cup 4
5	Cup 5
6	
7	Cold Water
8	Hot Water
9	Chemical Injection Flush

Table 12

Chemical Signal Assignments	
Chem 1	Break 1
Chem 2	Break 2
Chem 3	Sour / Softener
Chem 4	Starch
Chem 5	
Chem 6	

Table 13

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Program 0 – Rinse and Spin

		Rinse and Spin					
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	3.00					
Rotation	rotE	normal					
Rotation Action Time	rotE A						
Rotation Stop Time	rotE S						
Speed	rotE SP						
Temperature	teMP F	33					
Supply Flush 1	SE-i i1	/					
Supply Flush 2	i2	/					
Supply Flush 3	i3	/					
Supply Flush 4	i4	/					
Supply Flush 5	i5	/					
Cold Water Inlet	iCold	x					
Hot Water Inlet	iHot	x					
Flush	Flush	/					
Level Type	SE-LE LE	Hi					
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20					
Chem 1	SoAP t1	/					
Chem 2	SoAP t2	/					
Chem 3	SoAP t3	/					
Chem 4	SoAP t4	/					
Chem 5	SoAP t5	/					
Chem 6	SoAP t6	/					
Additional	Add	no add					
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						
Spin Time	Spin SP. T	5.00					
Spin Type		Smart					
Spin Speed GF	SP						

Table 14 (continued)

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Program 0 – Rinse and Spin

Table 14 (continued)

		Rinse and Spin					
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1					
Drain Movement	drain						
Drain Time	drain t						
Spin Delay Time	Spin dEti td	005					
Total Time	t=	8.05					
Tumble	tu	030					

Table 14

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Program 1 – Cold Wash

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	5.00	10.00	2.00	2.00	4.00	
Rotation	rotE	normal	normal	normal	normal	normal	
Rotation Action Time	rotE A						
Rotation Stop Time	rotE S						
Speed	rotE SP						
Temperature	teMP F	33	33	33	33	33	
Supply Flush 1	SE-i i1	X	/	/	/	/	
Supply Flush 2	i2	/	X	/	/	/	
Supply Flush 3	i3	/	/	/	/	/	
Supply Flush 4	i4	/	/	/	/	/	
Supply Flush 5	i5	/	/	/	/	X	
Cold Water Inlet	iCold	X	X	X	X	X	
Hot Water Inlet	iHot	/	/	/	/	/	
Flush	Flush	X	X	X	X	X	
Level Type	SE-LE LE	Hi	Lo	Med	Med	Med	
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	9	13	13	13	
Chem 1	SoAP t1	030	/	/	/	/	
Chem 2	SoAP t2	/	030	/	/	/	
Chem 3	SoAP t3	/	/	/	/	030	
Chem 4	SoAP t4	/	/	/	/	/	
Chem 5	SoAP t5	/	/	/	/	/	
Chem 6	SoAP t6	/	/	/	/	/	
Additional	Add	no add					
Additional	Add	no add	no add	no add	no add	no add	
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdu	Add Cool CduI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						

Table 15 (continued)

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Program 1 – Cold Wash

Table 15(continued)

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Spin Time	Spin SP. T	no spin	no spin	:30	:30	5.00	
Spin Type				Lo	Lo	Smart	
Spin Speed GF	SP						
Drain	drain	d1	d1	d1	d1	d1	
Drain Movement	drain	dist	dist				
Drain Time	drain t	45	45				
Spin Delay Time	Spin dEti td			005	005	005	
Total Time	t=	5.45	10.45	2.35	2.35	9.05	
Tumble	tu					030	

Table 15

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Program 2 – Warm Wash

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	5.00	10.00	2.00	2.00	4.00	
Rotation	rotE	normal	normal	normal	normal	normal	
Rotation Action Time	rotE A						
Rotation Stop Time	rotE S						
Speed	rotE SP						
Temperature	teMP F	33	33	33	33	33	
Supply Flush 1	SE-i i1	X	/	/	/	/	
Supply Flush 2	i2	/	X	/	/	/	
Supply Flush 3	i3	/	/	/	/	/	
Supply Flush 4	i4	/	/	/	/	/	
Supply Flush 5	i5	/	/	/	/	X	
Cold Water Inlet	iCold	X	X	X	X	X	
Hot Water Inlet	iHot	X	X	/	/	/	
Flush	Flush	X	X	X	X	X	
Level Type	SE-LE LE	Hi	Lo	Med	Med	Med	
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	9	13	13	13	
Chem 1	SoAP t1	030	/	/	/	/	
Chem 2	SoAP t2	/	030	/	/	/	
Chem 3	SoAP t3	/	/	/	/	030	
Chem 4	SoAP t4	/	/	/	/	/	
Chem 5	SoAP t5	/	/	/	/	/	
Chem 6	SoAP t6	/	/	/	/	/	
Additional	Add	no add	no add	no add	no add	no add	
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add StoP t						
Additional Soak Time	Add SoAH t						
Spin Time	SPin SP. T	no spin	no spin	:30	:30	5.00	
Spin Type				Lo	Lo	Smart	
Spin Speed GF	SP						

Table 16 (continued)

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Program 2 – Warm Wash

Table 16 (continued)

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1	d1	d1	d1	d1	
Drain Movement	drain	dist	dist				
Drain Time	drain	45	45				
Spin Delay Time	Spin dEti td			005	005	005	
Total Time	t=	5.45	10.45	2.35	2.35	9.05	
Tumble	tu					030	

Table 16

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Program 3 – Hot Wash

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	5.00	10.00	2.00	2.00	4.00	
Rotation	rotE	normal	normal	normal	normal	normal	
Rotation Action Time	rotE A						
Rotation Stop Time	rotE S						
Speed	rotE SP						
Temperature	teMP F	33	33	33	33	33	
Supply Flush 1	SE-i i1	X	/	/	/	/	
Supply Flush 2	i2	/	X	/	/	/	
Supply Flush 3	i3	/	/	/	/	/	
Supply Flush 4	i4	/	/	/	/	/	
Supply Flush 5	i5	/	/	/	/	X	
Cold Water Inlet	iCold	/	/	X	X	X	
Hot Water Inlet	iHot	X	X	X	/	/	
Flush	Flush	X	X	X	X	X	
Level Type	SE-LE LE	Hi	Lo	Med	Med	Med	
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	9	13	13	13	
Chem 1	SoAP t1	030	/	/	/	/	
Chem 2	SoAP t2	/	030	/	/	/	
Chem 3	SoAP t3	/	/	/	/	030	
Chem 4	SoAP t4	/	/	/	/	/	
Chem 5	SoAP t5	/	/	/	/	/	
Chem 6	SoAP t6	/	/	/	/	/	
Additional	Add	no add	no add	no add	no add	no add	
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						
Spin Time	Spin SP. T	no spin	no spin	:30	:30	5.00	
Spin Type				Lo	Lo	Smart	
Spin Speed GF	SP						

Table 17 (continued)

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Program 3 – Hot Wash

Table 17 (continued)

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1	d1	d1	d1	d1	
Drain Movement	drain	dist	dist				
Drain Time	drain t	45	45				
Spin Delay Time	Spin dEti td			005	005	005	
Total Time	t=	5.45	10.45	2.35	2.35	9.05	
Tumble	tu					030	

Table 17

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Program 4 – Perm Press

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	5.00	10.00	2.00	2.00	4.00	
Rotation	rotE	normal	normal	normal	normal	normal	
Rotation Action Time	rotE A						
Rotation Stop Tme	rotE S						
Speed	rotE SP						
Temperature	teMP F	33	33	33	33	33	
Supply Flush 1	SE-i i1	X	/	/	/	/	
Supply Flush 2	i2	/	X	/	/	/	
Supply Flush 3	i3	/	/	/	/	/	
Supply Flush 4	i4	/	/	/	/	/	
Supply Flush 5	i5	/	/	/	/	X	
Cold Water Inlet	iCold	/	/	/	/	X	
Hot Water Inlet	iHot	X	X	X	X	/	
Flush	Flush	X	X	X	X	X	
Level Type	SE-LE LE	Hi	Lo	Med	Med	Med	
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	9	13	13	13	
Chem 1	SoAP t1	030	/	/	/	/	
Chem 2	SoAP t2	/	030	/	/	/	
Chem 3	SoAP t3	/	/	/	/	030	
Chem 4	SoAP t4	/	/	/	/	/	
Chem 5	SoAP t5	/	/	/	/	/	
Chem 6	SoAP t6	/	/	/	/	/	
Additional	Add	no add	no add	no add	Cool down	no add	
Cool Down To Cdu	Add Cool CduI				2		
Highest Cd Temp	Add Cool Cdu				105		
Cool Down To Cdn	Add Cool CdnI				2		
Lowest Cd Temp	Add Cool Cdn				105		
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						
Spin Time	Spin SP. T	no spin	no spin	:30	:30	5.00	
Spin Type				Lo	Lo	Smart	
Spin Speed GF	SP						

Table 18 (continued)

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Program 4 – Perm Press

Table 18 (continued)

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1	d1	d1	d1	d1	
Drain Movement	drain	dist	dist				
Drain Time	drain t	45	45				
Spin Delay Time	Spin dEti td			005	005	005	
Total Time	t=	5.45	10.45	2.35	2.35	9.05	
Tumble	tu					030	

Table 18

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TProgram 5 – Cold Gentle

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	3.00	8.00	2.00	2.00	4.00	
Rotation	rotE	Force	Force	Force	Force	Force	
Rotation Action Time	rotE A	4.0	4.0	4.0	4.0	4.0	
Rotation Stop Tme	rotE S	16.0	16.0	16.0	16.0	16.0	
Speed	rotE SP	30	30	30	30	30	
Temperature	teMP F	80	80	80	80	80	
Supply Flush 1	SE-i i1	X	/	/	/	/	
Supply Flush 2	i2	/	X	/	/	/	
Supply Flush 3	i3	/	/	/	/	/	
Supply Flush 4	i4	/	/	/	/	/	
Supply Flush 5	i5	/	/	/	/	X	
Cold Water Inlet	iCold	X	X	X	X	X	
Hot Water Inlet	iHot	X	X	X	X	X	
Flush	Flush	X	X	X	X	X	
Level Type	SE-LE LE	Hi	Lo	Med	Med	Med	
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	9	13	13	13	
Chem 1	SoAP t1	030	/	/	/	/	
Chem 2	SoAP t2	/	030	/	/	/	
Chem 3	SoAP t3	/	/	/	/	030	
Chem 4	SoAP t4	/	/	/	/	/	
Chem 5	SoAP t5	/	/	/	/	/	
Chem 6	SoAP t6	/	/	/	/	/	
Additional	Add	no add	no add	no add	no add	no add	
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						
Spin Time	Spin SP. T	no spin	no spin	no spin	0.30	5.00	
Spin Type					Lo	Med	
Spin Speed GF	SP						

Table 19 (continued)

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Program 5 – Cold Gentle

Table 19 (continued)

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1	d1	d1	d1	d1	
Drain Movement	drain	dist	dist	dist			
Drain Time	drain t	45	45	45			
Spin Delay Time	Spin dEti td				005	005	
Total Time	t=	3.45	8.45	2.45	2.35	9.05	
Tumble	tu					030	

Table 19

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Program 6 – Warm Gentle

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	3.00	8.00	2.00	2.00	4.00	
Rotation	rotE	Force	Force	Force	Force	Force	
Rotation Action Time	rotE A	4.0	4.0	4.0	4.0	4.0	
Rotation Stop Tme	rotE S	16.0	16.0	16.0	16.0	16.0	
Speed	rotE SP	30	30	30	30	30	
Temperature	teMP F	110	110	110	110	110	
Supply Flush 1	SE-i i1	X	/	/	/	/	
Supply Flush 2	i2	/	X	/	/	/	
Supply Flush 3	i3	/	/	/	/	/	
Supply Flush 4	i4	/	/	/	/	/	
Supply Flush 5	i5	/	/	/	/	X	
Cold Water Inlet	iCold	X	X	X	X	X	
Hot Water Inlet	iHot	X	X	X	X	X	
Flush	Flush	X	X	X	X	X	
Level Type	SE-LE LE	Hi	Lo	Med	Med	Med	
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	9	13	13	13	
Chem 1	SoAP t1	030	/	/	/	/	
Chem 2	SoAP t2	/	030	/	/	/	
Chem 3	SoAP t3	/	/	/	/	030	
Chem 4	SoAP t4	/	/	/	/	/	
Chem 5	SoAP t5	/	/	/	/	/	
Chem 6	SoAP t6	/	/	/	/	/	
Additional	Add	no add	no add	no add	no add	no add	
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						
Spin Time	Spin SP. T	no spin	no spin	no spin	0.30	5.00	
Spin Type					Lo	Med	
Spin Speed GF	SP						

Table 20 (continued)

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Program 6 – Warm Gentle

Table 20 (continued)

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1	d1	d1	d1	d1	
Drain Movement	drain	dist	dist	dist			
Drain Time	drain t	45	45	45			
Spin Delay Time	Spin dEti td				005	005	
Total Time	t=	3.45	8.45	2.45	2.35	9.05	
Tumble	tu					030	

Table 20

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Program 7– Rubber Mats

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse 3	Spin
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	5.00	10.00	2.00	2.00	4.00	0.00
Rotation	rotE	normal	normal	normal	normal	normal	
Rotation Action Time	rotE A						
Rotation Stop Tme	rotE S						
Speed	rotE SP						
Temperature	teMP F	33	33	33	33	33	
Supply Flush 1	SE-i i1	X	/	/	/	/	
Supply Flush 2	i2	/	X	/	/	/	
Supply Flush 3	i3	/	/	/	/	/	
Supply Flush 4	i4	/	/	/	/	/	
Supply Flush 5	i5	/	/	/	/	X	
Cold Water Inlet	iCold	X	X	X	X	X	
Hot Water Inlet	iHot	X	X	X	X	X	
Flush	Flush	X	X	X	X	X	
Level Type	SE-LE LE	Hi	Med	Hi	Hi	Hi	
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	13	20	20	20	
Chem 1	SoAP t1	030	/	/	/	/	
Chem 2	SoAP t2	/	030	/	/	/	
Chem 3	SoAP t3	/	/	/	/	030	
Chem 4	SoAP t4	/	/	/	/	/	
Chem 5	SoAP t5	/	/	/	/	/	
Chem 6	SoAP t6	/	/	/	/	/	
Additional	Add	no add	no add	no add	no add	no add	
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						
Spin Time	Spin SP. T	no spin	no spin	no spin	no spin	no spin	3.00
Spin Type							Lo
Spin Speed GF	SP						

Table 21 (continued)

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Program 7– Rubber Mats

Table 21 (continued)

		Prewash	Wash1	Rinse 1	Rinse 2	Rinse 3	Spin
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1	d1	d1	d1	d1	d1
Drain Movement	drain	wash	wash 1	jolt	jolt	jolt	
Drain Time	drain t	30	30	30	60	180	
Spin Delay Time	Spin dEti td	005					005
Total Time	t=	5.30	10.30	2.30	3.00	7.00	3.50
Tumble	tu						030

Table 21

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Program 8 – Soak

		Prewash	Soak	Wash	Rinse 1	Rainse 2	Rinse and Spin
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti	5.00	5.00	10.00	2.00	2.00	4.00
Rotation	rotE	normal	normal	normal	normal	normal	normal
Rotation Action Time	rotE A						
Rotation Stop Tme	rotE S						
Speed	rotE SP						
Temperature	teMP F	33	33	33	33	33	33
Supply Flush 1	SE-i i1	X	X	/	/	/	/
Supply Flush 2	i2	/	/	X	/	/	/
Supply Flush 3	i3	/	/	/	/	/	/
Supply Flush 4	i4	/	/	/	/	/	/
Supply Flush 5	i5	/	/	/	/	/	X
Cold Water Inlet	iCold	X	/	X	X	X	X
Hot Water Inlet	iHot	X	X	X	X	/	/
Flush	Flush	X	X	X	X	X	X
Level Type	SE-LE LE	Hi	Hi	Lo	Med	Med	Med
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	20	20	9	13	13	13
Chem 1	SoAP t1	030	030	/	/	/	/
Chem 2	SoAP t2	/	/	030	/	/	/
Chem 3	SoAP t3	/	/	/	/	/	030
Chem 4	SoAP t4	/	/	/	/	/	/
Chem 5	SoAP t5	/	/	/	/	/	/
Chem 6	SoAP t6	/	/	/	/	/	/
Additional	Add	no add	Soah	no add	no add	no add	no add
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t		600				
Spin Time	Spin SP. T	no spin	no spin	no spin	0.30	0.30	5.00
Spin Type					Lo	Lo	Smart
Spin Speed GF	SP						

Table 22 (continued)

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Program 8 – Soak

Table 22 (continued)

		Prewash	Soak	Wash	Rinse 1	Rainse 2	Rinse and Spin
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain	d1	d1	d1	d1	d1	d1
Drain Movement	drain	dist	dist	dist			
Drain Time	drain t	45	45	45			
Spin Delay Time	Spin dEti td				005	005	005
Total Time	t=	5.45	605.45	10.45	2.35	2.35	9.05
Tumble	tu						030

Table 22

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Program 9 – Starch

Segment	id	1	2	3	4	5	6
Wash Time	Cyt ti	7.00					
Rotation	rotE	normal					
Rotation Action Time	rotE A						
Rotation Stop Tme	rotE S						
Speed	rotE SP						
Temperature	teMP F	33					
Supply Flush 1	SE-i i1	X					
Supply Flush 2	i2	/					
Supply Flush 3	i3	/					
Supply Flush 4	i4	/					
Supply Flush 5	i5	/					
Cold Water Inlet	iCold	X					
Hot Water Inlet	iHot	X					
Flush	Flush	X					
Level Type	SE-LE LE	Med					
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P	13					
Chem 1	SoAP t1	/					
Chem 2	SoAP t2	/					
Chem 3	SoAP t3	/					
Chem 4	SoAP t4	030					
Chem 5	SoAP t5	/					
Chem 6	SoAP t6	/					
Wash Time	Cyt ti	7.00					
Additional	Add	no add					
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						

Table 23 (continued)

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Program 9 – Starch

Table 23 (continued)

Segment	id	1	2	3	4	5	6
Spin Time	Spin SP. T	5.00					
Spin Type		Smart					
Spin Speed GF	SP						
Drain	drain	d1					
Drain Movement	drain						
Drain Time	drain t						
Spin Delay Time	Spin dEti td	005					
Total Time	t=	12.05					
Tumble	tu	030					

Table 23

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Program Worksheet

		Rinse and Spin	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Wash Time	Cyt ti						
Rotation	rotE						
Rotation Action Time	rotE A						
Rotation Stop Tme	rotE S						
Speed	rotE SP						
Temperature	teMP F						
Supply Flush 1	SE-i i1						
Supply Flush 2	i2						
Supply Flush 3	i3						
Supply Flush 4	i4						
Supply Flush 5	i5						
Cold Water Inlet	iCold						
Hot Water Inlet	iHot						
Flush	Flush						
Level Type	SE-LE LE						
Level	SE-LE LE.P						
Level Control	LE.Co LE.S.P						
Chem 1	SoAP t1						
Chem 2	SoAP t2						
Chem 3	SoAP t3						
Chem 4	SoAP t4						
Chem 5	SoAP t5						
Chem 6	SoAP t6						
Additional	Add						
Cool Down To Cdu	Add Cool CduI						
Highest Cd Temp	Add Cool Cdu						
Cool Down To Cdn	Add Cool CdnI						
Lowest Cd Temp	Add Cool Cdn						
Additional Stop Time	Add Stop t						
Additional Soak Time	Add SoaH t						
Spin Time	Spin SP. T						
Spin Type							
Spin Speed GF	SP						

Table 24 (continued)

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Program Worksheet

Table 24 (continued)

		Rinse and Spin	Wash1	Rinse 1	Rinse 2	Rinse and Spin	
Segment	**id**	**1**	**2**	**3**	**4**	**5**	**6**
Drain	drain						
Drain Movement	drain						
Drain Time	drain t						
Spin Delay Time	Spin dEti td						
Total Time	t=						
Tumble	tu						

Table 24

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